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REMARKS/ARGUMENTS

Claims 1-34 remain unchanged. Thus, claims 1-34 are pending.

Claims 1, 2, 3, 4, 7, 9, 10, 15, 20, 21, 22, 23, 26, 27, 28, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Decker et al. (US 4,980,897) in view of Patel (US 4,201,976).

Claims 11, 12, 13, 14, 16, 17, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Decker et al. and Patel and further in view of Kono et al. (US 5,455,536).

Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Decker et al. and Patel and further in view of Harkness et al. (US 2002/0059633 A1).

As amended, all the pending claims of the subject application comply with all requirements of 35 U.S.C. Accordingly, Applicant requests examination and allowance of all pending claims.

The Rejections Under 35 U.S.C. § 103(a)

Claim 1

Applicants respectfully traverse the rejection of claim 1 under §103(a) as allegedly being unpatentable over Decker et al. in view of Patel. Claim 1 recites a method for providing redundancy to multi-channel data transmission comprising "selecting a portion of original data from each of a plurality of original channels adapted to transmission through a communication medium; performing at least one encoding operation using said portions of original data to produce at least one portion of redundancy data; including said portion of redundancy data in at least one redundancy channel; and transmitting said redundancy channel along with said original channels through said communication medium."

Decker et al. discloses a muti-channel trellis encoder/decoder that takes source data from multiple channels, encodes the source data into encoded data using a trellis encoder, transmits the encoded data through the medium, and decodes the encoded data at the receiver. See Decker et al., abstract, col. 2, line 49 to col. 3, line 4, and figure 1. The trellis encoder takes the source data as input and produces encoded data as output, based on certain trellis states maintained by the trellis encoder. See Id., figure 7. The source data, along with the trellis state, determines the encoded data. However, the source data is not necessarily reflected (and for most

trellis states it is not reflected) as part of the encoded data. For example, Decker et al at figure 7, row 5, shows that if the trellis state $a_2\,a_1\,a_0 = 001$, and the input $x_1\,x_2 = 00$, the output $z_2\,z_1\,z_0 = 010$. In fact, for all other non-zero trellis states, the source data is not reflected as part of the encoded data. See Decker et al., figure 7, rows 5-32. Clearly, the encoded data replaces the source data such that it is the encoded data, as opposed to the source data, that is transmitted.

Patel discloses a technique for encoding parity check bits in redundant storage channels. There is absolutely no teaching in either Decker et al. or Patel that the trellis-based encoding scheme for data transmission in Decker et al. can be combined with the parity check encoding technique for redundant storage channels in Patel. It is also unclear how such a combination would be achieved. For example, it is not at all evident whether the encoder look-up table presented in figure 7 of Decker et al. can be re-designed to incorporate parity check bits, and how this would be done.

Furthermore, even if Decker et al. and Patel can be combined, and there is no teaching or suggestion to do so, it appears the resulting system would still fail to meet the limitations recited in claim 1. As mentioned previously, the encoded data that is transmitted in Decker et al. technique does not necessarily include, and in most cases does not include, the source data. If parity check bits are added, it seems the transmission would comprise the trellis encoded data of Decker et al. and the parity check bits of Patel. Thus, the transmitted data still would not include original data from each of a plurality of original channels. Clearly, even if combined, Decker et al. and Patel fail to teach or suggest "transmitting said redundancy channel along with said original channels through said communication medium," as recited in claim 1.

Given the foregoing, Applicants submit that claim 1 is patentable over both Decker et al. and Patel.

Claims 2-8

Claims 2-8 depend from claim 1 and therefore include all of the limitations of claim 1. For at least the reasons stated previously with respect to claim 1, claims 2-8 are also patentable over the cited references.

Claim 9

Applicants respectfully traverse the rejection of claim 9 under §103(a) as allegedly being unpatentable over Decker et al. in view of Patel. Claim 1 recites a method for correcting error in multi-channel data transmission having redundancy, the method comprising:

"receiving at least one redundancy channel and a number of original channels belonging to a plurality of original channels, said at least one redundancy channel and said plurality of original channels being transmitted over a communication medium; selecting a portion of redundancy data from said redundancy channel; selecting a portion of original data from each of said number of original channels; and performing at least one decoding operation using said portion of redundancy data and said portions of original data to correct at least one error in said plurality of original channels."

As discussed above with respect to claim 1, there is absolutely no teaching in either Decker et al. or Patel that the trellis-based encoding scheme for data transmission in Decker et al. can be combined with the parity check encoding technique for redundant storage channels in Patel. Also, even if these references are combined, it seems the resulting transmission would comprise the trellis encoded data of Decker et al. and the parity check bits of Patel. That is, the transmitted data still would not include original data from each of a plurality of original channels. Thus, Decker et al. and Patel fail to disclose or suggest "receiving at least one redundancy channel and a number of original channels belonging to a plurality of original channels, said at least one redundancy channel and said plurality of original channels being transmitted over a communication medium."

Given the foregoing, Applicants submit that claim 9 is patentable over both Decker et al. and Patel.

Claims 10-25

Claims 10-25 depend from claim 9 and therefore include all of the limitations of claim 9. For at least the reasons stated previously with respect to claim 9, claims 10-25 are also patentable over the cited references.

Claims 26-32

Claims 26-32 are multiple dependent claims depending from claims 1 or 9. Claims 26/1 through 32/1 depend from claim 1 and therefore include all of the limitations of claim 1. For at least the reasons stated previously with respect to claim 1, claims 26/1 through 32/1 are also patentable over the cited references. Claims 26/2 through 32/2 depend from claim 9 and therefore include all of the limitations of claim 9. For at least the reasons stated previously with respect to claim 9, claims 26/2 through 32/2 are also patentable over the cited references.

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<u>Claim 33</u>

Claim 33 recites a system for providing redundancy to multi-channel data transmission and includes limitations similar to those included in claim 1. For at least the reasons stated previously with regard to claim 1, claim 33 is believed to be patentable over the cited references.
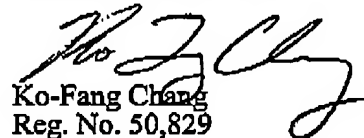
<u>Claim 34</u>

Claim 33 recites a system for correcting error in multi-channel data transmission having redundancy and includes limitations similar to those included in claim 9. For at least the reasons stated previously with regard to claim 9, claim 33 is believed to be patentable over the cited references.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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